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January 21st.

Vice President BRIDGES in the Chair.

Twenty-nine members present.

The following papers were presented for publication :

Descriptions of new Plants from Texas, by S. B. Buckley.

On the uniformity of relative characters between allied species of European and American Trees, by Thomas Meehan.

Notice of a new species of Hemilepidotus, by Theo. Gill.

On the subfamily of Argentininæ, by Theo. Gill.

Notes on the Sciænoids of California, by Theo. Gill.

Appendix to the Synopsis of the subfamily of Percinæ, by Theo. Gill.

Mr. Cassin gave an account of a flock of crows, lost in a fog whilst passing over the city early on Sunday morning, the 12th inst.

Mr. Haldeman stated that he had frequently noticed the bald eagle dive for fish in the Susquehanna, when it could not procure its food by robbing the fish hawk.

Dr. Rogers made some remarks on the influence upon the health of communities from the thawing of snow in the streets by means of salt, exposing what he considered to be the fallacies of the common prejudices on the subject.

January 28th.

Vice President BRIDGES in the Chair.

Twenty-four members present.

On report of the respective Committees, the following papers were ordered to be published in the Proceedings :

Notes on some of the American Ash Trees, (*Fraxinus*), with descriptions of new Species.

BY S. B. EUCKLEY.

The great accuracy of the plates in Michaux's *Sylva* is admitted by all who have seen both them and the trees whose portions are there represented. That the text contains a few errors is well known, but the figures are true to nature and correctly represent the object described. The wonder is that a work published at that early day, in the infancy of botany, should so well and truthfully describe our forest trees.

It is supposed by some botanists that the fruit in the plate of *Fraxinus americana* is that of the green ash, (*F. viridis*), or that the fruit of these two species of ash has been substituted the one for the other by mistake. The original proof-plates of the *Sylva* are in the Library of the Academy of Natural Sciences at Philadelphia, in which the figure of the white ash differs little from the one in the last edition. Had there been an error, it would have probably been corrected, as several editions of the *Sylva* passed under the eye of Michaux; nor does the fruit of the white ash differ from his description of that species. In his account of the green ash, he states that "*its seeds are only half as large as those of the white ash, but similar in form*"; and also, in describing *F. pubescens*, he remarks that "*its seeds are shorter than those of F. americana, but similar in form and arrangement.*" These statements in the text agree perfectly with his pictures of these species.

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The true *Fraxinus americana* (Linn.) is common in the public grounds and on the sidewalks of some of the streets of Philadelphia. It also grows along the Delaware and Schuylkill rivers in the vicinity of the city. Specimens of it are in the herbarium of the Academy of Natural Sciences which were collected in the vicinity of Boston, Mass., by Mr. Pickering, from whence it extends as far south as Louisiana, the author having gathered specimens of it in the woods two or three miles west of the Mississippi River, opposite New Orleans. In the year 1790, William Bartram assisted in making out a list of trees to be planted in Independence Square, Philadelphia. (See Pennsylvania Archives, vol. ii. p. 674.) Bartram's fondness for American trees led him to select for that purpose a great variety of indigenous species, so that the native trees of Pennsylvania are now well represented in this celebrated Square, among which the *Fraxinus americana* is conspicuous.

Cotemporaries of Bartram, and at that time residing in the city of Philadelphia, were Zaccheus Collins and Dr. Kuhn, botanists, both pupils of Linnæus, to whom they sent specimens, from which he described many American plants, including probably the *F. americana*. *Fraxinus pubescens* (Walt.) also grows in the neighborhood of Philadelphia, and, as Michaux observes, there is little difference in external appearance between it and the white ash. Any one who will compare the plates of these two species in the *Sylva* will see the striking resemblance in the fruit of each, but that of the red ash is shorter and more pointed. Its petioles are also more or less grooved, and the under side of its leaves and the petioles and young branches are much more pubescent than those of *F. americana*. Still the two are often considered as the same species by casual observers. It grows in most of the Southern States, and extends as far west as Minnesota.

Fraxinus epiptera (Mich.) was regarded by the younger Michaux and Nuttall the same as *F. americana*. It has been thus considered by the best American botanists. Had it been different, it would have been included in the *Sylva* by the younger Michaux. Specimens labelled by some of the old botanists *F. epiptera* (Mich.) are now in the herbarium of the Academy, and they differ not in the least from the *F. americana*.

DeCandolle makes *F. viridis* (Mich.) a synonym of *F. juglandifolia*. Specimens of the latter in the herbarium of the Academy agree well with those of the green ash, to which they have been referred by Nuttall and other botanists. It is nearly certain that DeCandolle is right, because he has been able to see both Lamarck's and Michaux's specimens. The green ash grows occasionally along streams from Pennsylvania to Texas. I have frequently seen it on the Alabama River; also on the Red River in Louisiana, below Alexandria. It is quite common in Southern Texas, where a form of it collected by Berlandier has been described by DeCandolle as *F. Berlandierii*, according to Torrey and Gray. Personal observation in Texas with one of Berlandier's specimens, kindly sent to me by Dr. Gray, convince me of the truth of their opinion.

Muhlenberg's herbarium, at the rooms of the American Philosophical Society in Philadelphia, contains a specimen of the green ash which has the serrated leaves and both sides of the same shade of green, which led Dr. Muhlenberg to call it *Fraxinus concolor*, as related by Michaux, who also states that it grows abundantly along the Susquehanna, near where Dr. Muhlenberg resided. Hence there is no difficulty in determining the true *F. viridis*, Mich., specimens of which in the herbarium of the Academy differ little from his figure of it in the *Sylva*. Therefore the reader may rest assured that the plates and descriptions in Michaux's *Sylva* of *Fraxinus americana*, *F. pubescens* and *F. viridis* are correct.

Since the time of Michaux, the American forest trees have rarely been carefully studied by botanists, because they are apt to look on the ground for new plants and flowers, and not up at the trees. Even Nuttall, in his travels, gave 1862.]

them little attention; nor did he when journeying contemplate a Supplement to Michaux's *Sylva*, which was done at the request of Philadelphia publishers after he had ceased his American wanderings. Hence the volumes of Nuttall have neither the freshness and life of description, nor that fidelity to nature in the plates, which are so remarkable in those of Michaux, who travelled for the especial purpose of publishing a work on the trees of America.

The closet botanist cannot master the botany of trees as well as that of herbaceous plants, because of the latter he often has the whole, but of the tree he can at most possess in his herbarium but a mere fragment, which is far from showing all its important characteristics. He who has made trees his especial study can distinguish the different species even in midwinter, when many of them are destitute of leaves. I make these remarks to show why the two next described species of *Fraxinus*, which are prevalent both at the North and at the South, have been generally referred to one or the other of the three species before mentioned.

Fraxinus albicans, S. nov.—Foliolis 2—4-jugis sessilibus, aut breviter petiolatis, ovatis, aut ovato-lanceolatis, integris vel serratis, subtus glaucis, tarde utrinque glabris, paniculis laxè terminalibus seu axillaribus; samaris linearibus 12—18 lin. lon. emarginatis, basi subteretibus.

It is found from New England to Texas, being the largest of the American ash trees, sometimes attaining a diameter of between four and five feet. Its bark is furrowed and of a light grey; hence it is called the white ash in many places. Its petioles are grooved, and its buds are destitute of the red velvety pubescence peculiar to *F. americana*. I have not seen it in the vicinity of Philadelphia, nor is there any specimen of it collected in this neighborhood in the herbarium of the Academy. In the herbarium of Darlington, at West Chester, I saw specimens of it labelled *F. americana*, and it is probably thus called by other American botanists. The West Chester collection had no specimens of *F. americana* or *F. pubescens*.

Both *F. americana* and *F. albicans* being called white ash throughout the country have caused them to be confounded, especially where, as is often the case, they do not both grow in the same locality; but the fruit of the latter is only about half the size of the former, which, with the other distinctions enumerated, show that they are very different species.

Fraxinus oblongocarpa, s. nov.—Foliolis 2—4-jugis lanceolatis, vel ovato-lanceolatis, acuminatis, basi cuneatis, integerimis, vel parce serratis, utrinque viridis, junioribus subtus parum pubescentibus, breve petiolatis; samaris lineari-oblongis, obtusis vel emarginatis, basi subteretibus, et anguste alatis.

A small tree, thirty or forty feet high, growing along water courses from Pennsylvania to Texas. Its young branches and the footstalks of the leaves covered with a velvety pubescence. Fruit 18 lines to 2 inches in length and 2—3 lines wide, the terete part short in proportion and somewhat winged, leaflets 3—4 inches long. This is the *Fraxinus pubescens* described in Darlington's *Flora Cestrica*, but not of Michaux. It differs from *F. pubescens* in its terete petioles; its leaves are of a deeper green beneath, and both its leaves and branches are less pubescent when mature. Its samarae are longer and nearly one-third less in width, nor are they mucronate, or as sharp pointed as in *F. pubescens*.

For those who have not Michaux's *Sylva*, the following brief descriptions of the white and red ash are given.

Fraxinus americanus (Linn.)—Foliolis 3—4-jugis, breviter petiolatis, ovato-lanceolatis, integerrimis, acutis, subtus glaucis, petiolis teretibus; gemmis rufo-velutinis; samaris lineari oblongis obtusis vel acutis, basi teretibus, subacutis.

Fruit 2—3 inches long, but generally about 2½ inches in length and 4—5 lines broad in the widest part; common petiole terete.

[Jan.

Fraxinus pubescens (Walt.)—Foliolis lanceolato-ovatis, subserratis seu integerimis, acuminatis, subtus pubescentibus, petiolis junioribus ramisque tomentosis; samaris anguste lanceolatis, obtusis, mucronatis vel acutis, basi teretibus.

Fruit $1\frac{1}{2}$ —2 inches long and 4—5 lines in width at the widest part; common petiole channelled above near the base.

Fraxinus nigrescens, s. nov.—Foliolis 2—4-jugis, lanceolatis vel ovato-lanceolatis, sessilibus, aut breve petiolatis, utrinque acutis vel abrupte acutis basi longe teretibus, acutis.

This is a common tree in the vicinity of Austin and in Middle Texas along water courses. It is generally small, but is sometimes 2—3 feet in diameter and 40—60 feet high. The bark of the stem and limbs is dark grey and furrowed; hence in many parts of the State it is called the "black ash." Its leaves are of a deep glossy green above and a paler green beneath, and in young leaves the midrib and veins are sparingly pubescent. The terminal leaflet is often much the largest, being sometimes 4—5 inches in diameter. Such specimens I obtained in Navarro County, and also on Caney River in Matagorda County. Its leaves are rarely if ever serrated. The samara are 12—15 lines long and 4—5 lines broad in the widest part; about one-half of the entire length is broadly winged, from whence the wings are gradually narrowed to the terete part. In midsummer the top of the fruit, extending nearly down half of the wings, is often curved. The common petiole is channelled above near its junction with the stem.

Fraxinus tri-alata, s. nov.—Foliolis 2—3-jugis, lanceolatis, vel obovatis, supra glabris, subtus parum pubescentibus, ad venas et parce glaucescentibus; samaris 2—3 alatis, obovatis, 6—8 lin. lon. obtusis, emarginatis, vel subacutis, basi anguste alatis, acutis.

A shrub or small tree, 15—20 feet high, growing on the banks of the Atacosa River in Western Texas. Samara in loose axillary or terminal panicles, about one-half of them 3-winged, and 2—3 lines broad in the widest portion; not terete below; the wings being attenuated as far as the pedicels; leaflets 12—18 lines long and 6—12 broad, branches smooth, and of a light grey color.

Fraxinus pauciflora Nutt. has been referred by Dr. Chapman, in his Flora of the Southern States, to *F. platycarpa*. Specimens of the former, collected by Dr. Baldwin, are in the herbarium of the Academy, and they differ from *F. platycarpa* in having the petioles grooved, leaves scarce half as large and of one-third less width, and much more acutely serrated, and the fruit of the two is widely different. I have not seen a tree of the *F. pauciflora*, but I well know *F. platycarpa*, which extends as far southwest as the Sabine River in Eastern Texas; and it certainly is very distinct from the Florida ash described by Nuttall, nor have I ever seen it assume any such form.

Descriptions of NEW PLANTS from Texas.—No. 2.

BY S. B. BUCKLEY.

POLEMONIACEÆ.

Phlox macrantha, s. n.—Pubescens, humilis 3—6 polycaris, ramosa, foliis lanceolatis, utrinque subacutis, alternis vel oppositis, calycibus parce canescenti pilosis, segmentis lineari-elongatis, acuminatis, corollæ tubo glabro, laciniis lato-obovatis, apice subacutis, capsula elipsoidea glabra, semina alata.

Prairies north of Austin. March.

Stems diffusely branching from the root; leaves numerous, lanceolate and 1862.]